DETAILED ACTION

It was conferenced that the application is not yet ready for appeal such that prosecution should be re-opened in order to continue to reject the claimed invention.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1, 6, 10-13 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,374,413) in view of van Slooten (US 4,992,245) in view of Mochizuki et al. (US 5,234,502). The claims are reasonably and broadly construed, in light or the accompanying specification, to be disclosed by Kim as comprising:

feeding microwave radiation from a microwave source into the fluidized-bed reactor (column 6 line 54 through column 7 line 12 and column 7 lines 38-57), introducing from below a first gas or gas mixture is introduced from through at least one gas supply tube into a mixing chamber of the fluidized-bed reactor (figure 1 and column 7 line 58 through column 8 line 45), the at least one gas supply tube **20** being at least partly surrounded by a fluidized bed which is fluidized by supplying fluidizing gas (column 8 line 46 through column 9 line 2), and supplying the microwave radiation to the mixing chamber through the at least one gas supply tube **17** (column 9 line 58 through column 10 line 51). Kim also discloses the claimed adjusting the solids in the reactor have a bed height such that the annular fluidized bed extends beyond the upper orifice end of the gas

supply tube and that solids are constantly introduced into the first gas or gas mixture and entrained by the gas stream to the mixing chamber located above the orifice region of the gas supply tube (column 10 line 52 through column 11 line 6) wherein solids discharged from the reactor and separated in a downstream separator are at least partly recirculated to the annular fluidized bed of the reactor (figure 2 and column 13 lines 33-58). Kim discloses the claimed invention, except for the claimed stationary annular fluidized bed. Van Slooten, another fluidized bed microwave method, discloses that feature at column 8 line 50 through column 10 line 12. It would have been obvious to one skilled in the art to combine the teachings of Kim, with the stationary annular feature of van Slooten, for the purpose of optimizing the microwave treatment of granular solids for an efficient use of energy. Furthermore, Kim in view of van Slooten discloses the claimed invention except for the specific microwave frequencies, adjustable wave guide cross section, or fluidized bed temperatures. It would have been an obvious matter of design choice to recite those features, since the teachings of Kim in view of von Slooten would perform the invention as claimed, regardless of the frequency, adjustable cross section, or temperature. Kim in view of van Slooten, discloses the claimed invention, except for the claimed at least one gas supply tube is a wave guide. Mochizuki, another method for treating solids, discloses that feature at column 6 lines 10-48 and shown in figure 7. Figure 7 shows a waveguide 21 with a gas supply tube and vessel walls 22A and 22B. To those skilled in the art, it should be recognized that the gas tube, walls and wave guide are all coextensive, such that the claimed gas supply tube functions as a

waveguide since it meets both the function and structure of that claim in the teachings of Mochizuki. It would have been obvious to one skilled in the art to combine the teachings of Kim in view of van Slooten, with the gas supply tube wave guide disclosed in Mochizuki for the purpose of gas treatment in an effective manner.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of van Slooten in view of Mochizuki in view of Hardwick et al. (US 4,490,287). Kim in view of van Slooten in view of Mochizuki discloses the claimed invention, as rejected above, except for the claimed feature of wherein the microwave radiation is introduced through a gas supply tube constituting a wave guide and/or through a wave guide arranged in the gas supply tube, wherein the microwave radiation is introduced through a plurality of wave guides, each wave guide being provided with a separate microwave source, wherein purge gas is passed through the wave guide. Hardwick, another fluidized bed method, discloses that feature at column 7 line 30 through column 8 line 38. It would have been obvious to one skilled in the art to combine the teachings of Kim in view of van Slooten in view of Mochizuki, with the wave guide arrangement of Hardwick, for the purpose of optimizing microwave energy in granular solids for an efficient fluidized bed treatment.

Response to Arguments

Applicants' arguments filed August 25, 2010 have been fully considered but they are not persuasive.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Other prior art references cited teach one or more features of the claimed invention but are not relied upon in rejecting the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Gravini whose telephone number is 571 272 4875. The examiner can normally be reached on normal weekday business hours (east coast time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth B. Rinehart can be reached on 571 272 4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen M. Gravini/
Primary Examiner, Art Unit 3743

Since prosecution is re-opened after filing an notice of appeal, examiner's

manager is required to sign below.